10

15

20

25



What is claimed is:

- 1. An isolated polypeptide comprising an amino acid sequence of SEQ ID NO:1
- 2. A method for producing a polypeptide of claim 1, the method comprising:
- a) culturing a cell under conditions suitable for expression of the polypeptide,
 wherein

said cell is transformed with a recombinant polynucleotide, and said recombinant polynucleotide comprises a promoter sequence operably linked to a polynucleotide encoding the polypeptide of claim 1, and

- b) recovering the polypeptide so expressed.
- 3. A method for detecting a transcript encoding a polypeptide in a sample, the method comprising:
- a) hybridizing a polynucleotide which encodes the polypeptide of claim 1 with the sample containing nucleic acids,
- b) detecting complex formation between the polynucleotide and at least one nucleic acid of the sample, wherein complex formation indicates the presence of the transcript of the polypeptide in the sample.
- 4. The method of <u>claim</u> 3, wherein the nucleic acids of the sample are amplified prior to hybridization.
- 5. A composition comprising an effective amount of a polypeptide of <u>claim 1</u> and an acceptable excipient.
- 6. A method for screening a compound for effectiveness as an agonist of a polypeptide of claim 1, the method comprising:
 - a) exposing a sample comprising a polypeptide of claim 1 to a compound, and
 - b) detecting agonist activity in the sample.

30

PF-0385-1 DIV

- 7. A method for screening a compound for effectiveness as an antagonist of a polypeptide of claim 1, the method comprising:
 - a) exposing a sample comprising a polypeptide of claim 1 to a compound, and
 - b) detecting antagonist activity in the sample.

5

10

15

20

25

30

- 8. A method for using a protein to screen a plurality of molecules or compounds to identify at least one ligand, the method comprising:
 - a) combining the protein of claim 1 with the molecules or compounds under conditions to allow specific binding; and
 - b) detecting specific binding, thereby identifying a ligand which specifically binds the protein.
- 9. The method of claim 8 wherein the molecules or compounds are selected from DNA molecules, RNA molecules, peptide nucleic acids, peptides, proteins, mimetics, agonists, antagonists, antibodies, immunoglobulins, inhibitors, and drugs.
- 10. An isolated polynucleotide encoding a polypeptide of claim 1, or the complement thereof.
- 11. An isolated polynucleotide sequence comprising SEQ ID NO:2, or the complement thereof.
- 12. A method for detecting a target polynucleotide in a sample, said target polynucleotide having a sequence of a polynucleotide of claim 10, the method comprising:
 - a) hybridizing the sample with a probe comprising at least 20 contiguous nucleotides comprising a sequence complementary to said target polynucleotide in the sample, and which probe specifically hybridizes to said target polynucleotide, under conditions whereby a hybridization complex is formed between said probe and said target polynucleotide or fragments thereof, and
 - b) detecting the presence or absence of said hybridization complex, and, optionally,

10

15

20

25

30



if present, the amount thereof.

- 13. A method for detecting a target polynucleotide in a sample, said target polynucleotide having a sequence of a polynucleotide of claim 10, the method comprising:
 - a) amplifying said target polynucleotide or fragment thereof using polymerase chain reaction amplification, and
 - b) detecting the presence or absence of said amplified target polynucleotide or fragment thereof, and, optionally, if present, the amount thereof.
- 14. A method for screening a compound for effectiveness in altering expression of a target polynucleotide, wherein said target polynucleotide comprises a polynucleotide sequence of claim 10, the method comprising:
 - a) exposing a sample comprising the target polynucleotide to a compound, under conditions suitable for the expression of the target polynucleotide,
 - b) detecting altered expression of the target polynucleotide, and
 - c) comparing the expression of the target polynucleotide in the presence of varying amounts of the compound and in the absence of the compound.
 - 15. A method for assessing toxicity of a test compound, said method comprising:
 - a) treating a biological sample containing nucleic acids with the test compound;
 - b) hybridizing the nucleic acids of the treated biological sample with a probe comprising at least 20 contiguous nucleotides of a polynucleotide of claim 10 under conditions whereby a specific hybridization complex is formed between said probe and a target polynucleotide in the biological sample, said target polynucleotide comprising a polynucleotide sequence of a polynucleotide of claim 10 or fragment thereof;
 - c) quantifying the amount of hybridization complex; and
 - d) comparing the amount of hybridization complex in the treated biological sample with the amount of hybridization complex in an untreated biological sample, wherein a difference in the amount of hybridization complex in the treated

12.5

5

10

15

20

25

30

PF-0385-1 DIV

biological sample is indicative of toxicity of the test compound.

- 16. A purified antibody which specifically binds to the polypeptide of claim 1.
- 17. The antibody of claim 16, wherein the antibody is:
 - (a) a chimeric antibody;
 - (b) a single chain antibody;
 - (c) a Fab fragment;
 - (d) a F(ab')₂ fragment;
 - (e) a Fv fragment; or
 - (f) a humanized antibody.
- 18. A pharmaceutical composition comprising an antibody of claim 16 and a pharmaceutically acceptable excipient.
- 19. A method of diagnosing a condition or disease associated with the expression of AUTOP in a subject, comprising administering to said subject an effective amount of the pharmaceutical composition of claim 18.
 - 20. A pharmaceutical composition of claim 18, wherein the antibody is labeled.
- 21. A method of diagnosing a condition or disease associated with the expression of AUTOP in a subject, comprising administering to said subject an effective amount of the pharmaceutical composition of claim 20.
- 22. A method of preparing a polyclonal antibody with the specificity of the antibody of claim 16 comprising:
- a) immunizing an animal with a polypeptide of SEQ ID NO:1 or an antigenically-effective fragment thereof under conditions to elicit an antibody response;
 - b) isolating animal antibodies; and

20

25

5

PF-0385-1 DIV

- c) screening the isolated antibodies with the polypeptide thereby identifying a polyclonal antibody binds specifically to a polypeptide of SEQ ID NO:1.
 - 23. An antibody produced by a method of claim 22.
- 24. A pharmaceutical composition comprising the antibody of claim 23 in conjunction with a suitable pharmaceutical carrier.
- 25. A method of making a monoclonal antibody with the specificity of the antibody of claim 16 comprising:
 - a) immunizing an animal with a polypeptide of SEQ ID NO:1 or an antigenically-effective fragment thereof under conditions to elicit an antibody response;
 - b) isolating antibody producing dells from the animal;
 - c) fusing the antibody producing cells with immortalized cells in culture to form monoclonal antibody-producing hybridoma cells;
 - d) culturing the hybridoma cells; and
 - e) isolating from the culture monoclonal antibodies which binds specifically to a polypeptide of SEQ ID NO:1.
 - 26. A monoclonal antibody produced by a method of claim 25.
 - 27. A pharmaceutical composition comprising the antibody of claim 26 in conjunction with a suitable pharmaceutical carrier.
 - 28. The antibody of claim 16, wherein the antibody is produced by screening a Fab expression library.
 - 29. The antibody of claim 16, wherein the antibody is produced by screening a recombinant immunoglobulin library.

10

PF-0385-1 DIV

- 30. A method for detecting a polypeptide of SEQ ID NO:1 in a sample comprising the steps of:
- a) combining the antibody of claim 16 with a sample under conditions to allow specific binding; and
- b) detecting specific binding, wherein specific binding indicates the presence of polypeptide of SEQ ID NO:1 in the sample.
- 31. A method of using an antibody to purify polypeptide of SEQ ID NO:1 from a sample, the method comprising:
- a) combining the antibody of claim 16 with a sample under conditions to allow specific binding; and
- b) separating the antibody from the protein, thereby obtaining purified polypeptide of SEQ ID NO:1.